

What is claimed is:

1. A system for triggering a plurality of test and measurement instruments substantially simultaneously, comprising:
  - 5 a first test and measurement instrument having a first input for receiving a signal under test, an output for developing a trigger enable signal, and an input for receiving a combined trigger signal;
  - a second test and measurement instrument having a first input for receiving a signal under test, an output for developing a trigger enable
  - 10 signal, and an input for receiving a combined trigger signal; and
  - circuitry for logically combining said trigger enable signals of said first and second test and measurement instruments to generate said combined trigger signal;
  - wherein each of said test and measurement instruments is
  - 15 coupled to said circuitry for combining via a cable connecting a respective pair of transceivers, and said trigger enable signal and said combined trigger signal are conveyed in mutually opposite directions through said cable; and
  - said first and second test and measurement instruments acquiring
  - 20 data samples of said signals under test in response to said combined trigger signal.
2. The system of claim 1, wherein said transceivers comprise:
  - a series combination of a variable impedance device, a switch and a
  - 25 constant current source; wherein:
  - the junction of said variable impedance device and said switch is adapted to effect transmission of at least one of said trigger enabled signal and said combined trigger signal.
- 30 3. The system of claim 2, wherein the junction of said variable impedance device and said switch is monitored to effect reception of at least one of said trigger enabled signal and said combined trigger signal.

4. A system, comprising:  
a plurality of signal acquisition devices, each of said signal acquisition devices comprising an event decoder, for monitoring at least one respective input signal to determine whether a logical triggering event has occurred, and a  
5 transceiver, for transmitting indicium of the occurrence of said logical triggering event and for receiving a trigger signal; and  
a trigger controller, comprising a plurality of transceivers operative to receive said logical triggering event indicia transmit said trigger signal, and a logical processing device for combining said logical triggering event indicia to  
10 produce therefrom said trigger signal.

5. The system of claim 4, wherein said transceivers comprise:  
a series combination of a variable impedance device, a switch and a constant energy source; wherein  
15 the junction of said variable impedance device and said switch is adapted to effect transmission of said indicium of the occurrence of said logical event.

6. The system of claim 5, wherein:  
20 the junction of said variable impedance device and said switch is monitored to effect reception of said triggering signal.

7. The system of claim 5, wherein:  
said constant energy source comprises a constant current source; and  
25 said variable impedance device comprises a transistor.

8. Apparatus, comprising:  
an event decoder, for monitoring at least one input signal to determine whether a logical triggering event has occurred; and  
30 a transceiver, for transmitting indicium of the occurrence of said logical triggering event and for receiving a trigger signal.

9. The apparatus of claim 8, further comprising:

an acquisition unit, for acquiring a plurality of data samples from said at least one input signal in response to said trigger signal.

10. The apparatus of claim 8, wherein said transceiver comprises:  
5 a series combination of a variable impedance device, a switch and a constant energy source; wherein  
the junction of said variable impedance device and said switch is adapted to effect transmission of said indicium of the occurrence of said logical event.
- 10 11. The apparatus of claim 10, wherein:  
the junction of said variable impedance device and said switch is monitored to effect reception of said triggering signal.
- 15 12. The apparatus of claim 10, wherein:  
said constant energy source comprises a constant current source; and  
said variable impedance device comprises a transistor.
13. The apparatus of claim 8, wherein:  
20 said apparatus is used in each of a plurality of signal acquisition devices, each of said plurality of signal acquisition devices using its respective transceiver to transmitting respective indicia of logical triggering events and to receive said trigger signal.
- 25 14. The apparatus of claim 13, wherein:  
each signal acquisition device transceiver communicates with a corresponding transceiver in a trigger controller, said trigger controller logically combining said indicia of logical triggering events to produce said trigger signal.

30